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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,780	08/28/2003	Junichi Kitano	241917US-2DIV	5844

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ALEXANDRIA, VA 22314

EXAMINER

MOORE, KARLA A

ART UNIT	PAPER NUMBER
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1763

DATE MAILED: 08/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/649,780

Applicant(s)

KITANO ET AL.

Examiner

Karla Moore

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-36, 38-41, 43-52, 56, 61 and 62 is/are pending in the application.
- 4a) Of the above claim(s) 21-34, 43-52 and 62 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 35, 36, 38-41, 56 and 61 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 35, 38-39 and 41 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,022,672 to Ikeda.

3. Ikeda discloses a substrate processing apparatus in Figure 8, comprising: a reaction inhibiting section (multiple numbers, 155-157; column 1, rows 30-52 and column 6, rows 1-17) capable of inhibiting progress of a resolution reaction of a resist for a substrate coated with the resist and exposed; a heating section (any of 162, which are general/conventional semiconductor resist processing sections; column 13, rows 22-28 and column 14, rows 55-58) for heating the substrate processed in the reaction inhibiting section to progress the resolution reaction of the resist; a cooling section (any of 162, which are general/conventional semiconductor resist processing sections; column 13, rows 22-28 and column 14, rows 55-58) for cooling the substrate heated in the heating section to inhibit the progress of the resolution reaction of the resist; and a developing processing section (any of 162, which are general/conventional semiconductor resist processing sections; column 13, rows 22-28 and column 14, rows 55-58) for performing coating processing of a developing solution for the substrate cooled in the cooling section.

4. With respect to the limitation regarding the extent (method) of reaction inhibiting performed in the reaction inhibiting section, the courts have ruled that a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed

Art Unit: 1763

apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987)

5. With respect to claims 38 and 39, using the heating and cooling sections (155 and 163) of the reaction inhibiting section, the section may inhibit the progress of the resolution reaction of the resist by heating and/ or cooling the substrate coated with the resist and exposed so as not to cause dew formation.

6. With respect to claim 41, which recites that the resist is a chemically amplified resist, the resolution of which is progressed by an acid produced by exposure, Examiner notes that the courts have ruled that that the inclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims. In re Young, 75 F.2d 966, 25 USPQ 69 (CCPA 1935) (as restated in In re Otto, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963)). Examiner also notes that Ikeda teaches that the resist is a chemically amplified resist, the resolution of which is progressed by an acid produced by exposure (column 5, rows 13-18).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 1763

9. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,022,672 to Ikeda in view of U.S. Patent No. 5,723,259 to Oikawa et al.

10. Ikeda discloses a substrate processing apparatus in Figure 8 substantially as claimed and comprising: a first station (151) including a mounting section on which a substrate cassette housing a plurality of substrate is mounted and a delivery means (153) for receiving and sending the substrate from/to the substrate cassette mounted on the mounting section; a second station (multiple part numbers 154-157 and 163) connected to the first station, for processing the substrate transferred by the delivery means; and an interface section (158) for delivering the substrate between a processing station (any of 162) and an aligner (159) for subjecting the substrate to exposure processing; wherein the second station includes; a cooling section (163) for cooling the substrate heated in the heating section to inhibit the progress of the resolution reaction of the resist, and a developing processing section (any of 162, which are general/conventional semiconductor resist processing sections; column 13, rows 22-28 and column 14, rows 55-58) for performing coating processing of a developing solution for the substrate.

11. However, Ikeda fails to teach the interface section includes a reaction inhibiting section placed at a position nearer the aligner side.

12. Oikawa et al. teach the use of a reaction inhibiting section (cooling buffer; Figure 1, 6; column 9, rows 4-5 and column 10, rows 8-12) provided in an interface section for the purpose of a cooling a substrate after treatment to an ordinary temperature. The reaction inhibiting section is place in a central location. Incorporated into the interface section of Ikeda it would be "nearer" to the aligner as the interface section is "nearer" to the aligner than the other sections of the apparatus.

13. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided an reaction inhibiting section provided in an interface section for the purpose of cooling a substrate after treatment to an ordinary temperature as taught by Oikawa et al.

14. Claims 56 and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,022,672 to Ikeda in view of Japanese Patent Publication No. 10-256344 to Tateyama and U.S. Patent No. 5,273,585 to Shoga et al.

Art Unit: 1763

15. Ikeda discloses a substrate processing apparatus in Figure 8 substantially as claimed and comprising: a cassette station (151) including a mounting section on which a substrate cassette housing a plurality of substrate is mounted and a delivery means (153) for receiving and sending the substrate from/to the substrate cassette mounted on the mounting section; and a processing station (multiple part numbers 155, 162, 163), connected to the cassette station, for processing the substrate transferred by the delivery means: the processing station having a heating section (155) for heating the substrate, a cooling section for cooling the substrate and a developing station (162) for performing coating processing of a developing solution; and an interface section (158) for delivering the substrate between the processing station and an aligner (159).

16. However, Ikeda fails to the interface section having a gas supplying section for supplying a gas having a humidity lower than air and a temperature regulating section regulating either of the temperature or the humidity.

17. Tateyama teaches using a transfer unit/section comprising a cooling gas flow for the purpose of efficiently cooling substrates down to a first fixed temperature before they are laid on cooling plates to do a second cooling (abstract). With respect to 59, although a specific temperature for controlling the cooling gas is not disclosed in Tateyama, the gas is disclosed as "cooling gas" which would obviously mean that the gas is regulated to a "cooling" temperature.

18. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided the transfer unit/section in Ikeda with a cooling gas flow in order to efficiently cool substrates down to a first fixed temperature before they are laid on cooling plates to do a second cooling as taught by Tateyama.

19. Examiner notes that the combination of Ikeda and Tateyama disclose the structure of the claimed invention that would be capable of the claimed intended use (making the amount of moisture adhering to a substrate smaller), whether or not the exact same intended use is disclosed in the prior art is immaterial, for the courts have ruled that claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. In re Danly, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959) and that a claim containing a "recitation with respect to the manner in which a claimed

Art Unit: 1763

apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987), as noted above.

20. Ikeda and Tateyama disclose the invention as described above.

21. However, Ikeda and Tateyama fail to teach a temperature regulating section for regulating at least the temperature or the humidity of the gas supplied from the gas supply section.

22. Shoga et al. teach using a regulator section for regulating the temperature of a cooling gas for the purpose of improving a cooling rate of an object to be cooled (column 17, rows 39-43, 63-68 and column 18, rows 22-24).

23. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided a regulator section in Ikeda and Tateyama in order to improve the cooling rate of the object being cooled as taught by Shoga et al.

24. With respect to claim 61, which recites that the resist is a chemically amplified resist, the resolution of which is progressed by an acid produced by exposure, Examiner notes that the courts have ruled that that the inclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims. In re Young, 75 F.2d 966, 25 USPQ 69 (CCPA 1935) (as restated in In re Otto, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963)). Examiner also notes that Ikeda teaches that the resist is a chemically amplified resist, the resolution of which is progressed by an acid produced by exposure (column 5, rows 13-18).

Response to Arguments

25. Applicant's arguments with respect to the rejected claims have been considered but are moot in view of the new ground(s) of rejection. New prior art (Oiwaya et al.) has been relied upon for the teaching of a reaction inhibiting section provided in an interface chamber. Further, providing an interface section with a gas supply section and a gas supply regulating section is rendered obvious by Ikeda in view of Tateyama and Shoga. Examiner notes that Applicant's claim recites that the temperature or humidity can be controlled. Shoga and Tateyama disclose controlling temperature and thus teach the recitation.

Art Unit: 1763

26. With respect to the previously allowable subject matter of cancelled claim 42 that Applicant attempted to incorporate into independent claim 35, Examiner points out that the subject matter of cancelled claim 42 was drawn to a reaction inhibiting section that "controlled" an extent to which the progress of the resolution reaction of the resist is inhibited according to an area of the substrate coated with the resist and exposed, rather than, a reaction inhibiting section "for" inhibiting progress of the resolution reaction of the resist according to an area of the substrate coated with the resist and exposed. As amended, the reaction inhibiting performed by the reaction inhibiting section is seen as an intended use and the courts have ruled that a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987)

Conclusion

27. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karla Moore whose telephone number is 571.272.1440. The examiner can normally be reached on Monday-Friday, 8:30am-5:30pm.

Art Unit: 1763

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571.272.1435. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



km
20 August 2005



Parviz Hassanzadeh
Supervisory Patent Examiner
Art Unit 1763